

SPECIFICATION

TO ALL WHOM IT MAY CONCERN:

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Be it known that I, Fred S. Cook, with residence and citizenship listed below, have invented the inventions described in the following specification entitled:

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PRODUCT REGISTRATION USING A CODE PROCESSING SYSTEM

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PRODUCT REGISTRATION USING A CODE PROCESSING SYSTEM

RELATED APPLICATIONS

Not applicable

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FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

Not applicable

MICROFICHE APPENDIX

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Not applicable

BACKGROUND OF THE INVENTION

1. FIELD OF THE INVENTION

The invention is related to the field of communications systems, and in particular, to a system and method for registering products with a manufacturer using a code processing system.

2. DESCRIPTION OF THE PRIOR ART

Manufacturers of products sometimes offer additional warranties on their products other than those prescribed by law. Some of these additional warranties are not activated until the purchaser, also referred to as the consumer, somehow contacts the manufacturer to activate the warranty. In other words, warranties are available to the consumer, but the warranties are not active upon purchase of the product. The consumer has to contact the manufacturer to request activation of the warranty on the product. For instance, the consumer could call the manufacturer to register the purchased product with the manufacturer. The consumer could also mail in a warranty activation card that is packaged with the product. The consumer could also activate the warranty through email or through a home web page for the manufacturer. The manufacturer registers the product in response to the activation request, in a database for example. The manufacturer then "turns-on" or activates the

warranty on the product. The consumer can then seek restitution from the manufacturer in the event that a product is found to be defective. The consumer can also receive product updates, notices, upgrade offers, and other information from the manufacturer.

5 Similarly, phone companies distribute or sell pre-paid phone cards that are not activated. If a consumer attempts to make a call using a non-activated phone card, then the phone companies deny the consumer access to the system. The phone companies have a record of the pre-paid phone cards and the records initially have the pre-paid phone cards listed as not activated. They
10 are not activated to avoid stealing of the cards or unauthorized use of the cards. The phone cards include a code for activating the cards. A merchant can activate a phone card by calling the phone company and supplying the phone company with an authentication of the merchant and an activation code. The phone company finds the activation code in its database and activates the phone
15 cards associated with the activation code.

Many sellers of products, particularly retail sellers, use point of sale systems to read the price of a product and accept payment for the product. A point of sale system, such as a bar code reader or some other device, reads product information from a product and displays a price for the product. The
20 consumer then provides the point of sale system with a financial card number to provide payment for the product. The financial card number could be a credit card number, a bank card number, a debit card number, or some other financial transaction number. The point of sale system communicates with a financial network over the Public Switched Telephone Network (PSTN) or a private line.
25 The point of sale system transmits a charge authorization request, the card number, and other information pertaining to the sale to the financial network. The financial network processes the charge authorization request, the card number, and the other sale information and generates an authorization response. The authorization response indicates whether the card transaction is
30 allowed. The financial network transmits the authorization response to the point of sale system over the PSTN or the private line. The point of sale system

receives the authorization response and displays the response for the sales clerk and the consumer.

Unfortunately, the point of sale system and financial network have not been effectively adapted to communicate with a manufacturer to register products. Consumers that have to actively register products themselves, such as to activate a warranty, may not take the time to register the product they purchase. Consequently, the consumers are not getting full protections offered by the manufacturers.

10 SUMMARY OF THE INVENTION

The invention helps to solve the above problems by automatically registering products with the manufacturer. Advantageously, the invention increases the number of consumers that register products with manufacturers. The invention also makes it easier for consumers to activate warranties on products that they purchase.

One aspect of the invention comprises a product registration system that registers a product when the product is purchased. The product registration system is comprised of a point of sale system, a code processing system, a manufacturer registration system, and a communication code activation system. The point of sale system obtains a communication code that is associated with the product being purchased. The communication code could include a calling card code, a phone card code, or a pre-paid phone card code. The point of sale system transmits the communication code to the code processing system.

The code processing system processes the communication code to determine manufacturer information for the product. The code processing system generates a product registration request and transmits the product registration request to the manufacturer registration system based on the manufacturer information. The code processing system also generates a communication code activation request. The code processing system transmits the communication code activation request and the communication code to the communication code activation system for activation of the communication code.

A second aspect of the invention comprises a product warranty activation system that automatically activates a warranty on a product being purchased. The product warranty activation system is comprised of a point of sale system, a code processing system, a financial network, a manufacturer warranty activation system, and a phone card activation system. For this aspect, manufacturers package their products with phone cards. The point of sale system obtains a phone card code that is associated with the product being purchased. The point of sale system also obtains a financial card number that is used to purchase the product. The point of sale system transmits the phone card code and the financial card number to the code processing system.

The code processing system transmits the financial card number to the financial network to authorize the charge. If the code processing system receives an authorization response from the financial network that the charge was authorized, then the code processing system processes the phone card code to determine product information and manufacturer information for the product. The code processing system generates a warranty activation request and transmits the warranty activation request and the product information to the manufacturer warranty activation system based on the manufacturer information. The code processing system also generates a phone card activation request. The code processing system transmits the phone card activation request and the phone card code to the phone card activation system for activation of the phone card. Automatically activating the warranty on the product can save the consumer time and effort. Packaging the phone cards with the products and automatically activating the phone cards can advantageously advertise phone card use for phone companies.

BRIEF DESCRIPTION OF THE DRAWINGS

The appended claims set forth the features of the present invention with particularity. The invention, together with its advantages, may be best understood from the following detailed description taken in conjunction with the accompanying drawings.

FIG. 1 is a block diagram that illustrates a product registration system in an example of the invention.

FIG. 2 illustrates a message sequence diagram for the product registration system in FIG. 1 in an example of the invention.

5 FIG. 3 is a block diagram that illustrates a product warranty activation system in an example of the invention.

FIG. 4 illustrates a message sequence diagram for the product warranty activation system in FIG. 3 in an example of the invention.

10 FIG. 5 is a flow diagram that illustrates logic executed by a point of sale system in an example of the invention.

FIG. 6 is a flow diagram that illustrates logic executed by a code processing system in an example of the invention.

DETAILED DESCRIPTION OF THE INVENTION

A Product Registration System -- FIGS. 1-2

15 FIGS. 1-2 depict an example of a product registration system in accord with the present invention. Those skilled in the art will appreciate numerous variations from this example that do not depart from the scope of the invention. Those skilled in the art will also appreciate that various features described below could be combined with other embodiments to form multiple variations of the invention. Those skilled in the art will appreciate that some conventional aspects of FIGS. 1-2 have been simplified or omitted for clarity.

25 FIG. 1 depicts product registration system 100 in an example of the invention. Product registration system 100 comprises a point of sale system 102, a code processing system 104, a manufacturer registration system 106, and a communication code activation system 108. Code processing system 104 is configured to communicate with point of sale system 102, manufacturer registration system 106, and communication code activation system 108.

30 Point of sale system 102 is any system configured to facilitate the selling of a product. Code processing system 104 is any system configured to process

a communication code to facilitate registering a product with a manufacturer. Manufacturer registration system 106 is any system configured to register a product with a manufacturer. Communication code activation system 108 is any system configured to activate a communication code.

FIG. 2 depicts a message sequence chart for product registration system 100 to register a product. Point of sale system 102 obtains a communication code that is associated with the product. In some examples, the communication code includes a calling card code, a phone card code, a pre-paid phone card code, or some other code. Point of sale system 102 transmits the communication code.

Code processing system 104 receives the communication code. Code processing system 104 processes the communication code to determine manufacturer information for the product. Code processing system 104 generates a product registration request. Code processing system 104 transmits the product registration request to manufacturer registration system 106 based on the manufacturer information to register the product with a manufacturer.

Code processing system 104 also generates a communication code activation request responsive to receiving the communication code. Code processing system 104 transmits the communication code activation request and the communication code to communication code activation system 108 for activation of the communication code.

A Product Warranty Activation System -- FIGS. 3-6

FIGS. 3-6 depict a specific example of a product warranty activation system in accord with the present invention. Those skilled in the art will appreciate numerous variations from this example that do not depart from the scope of the invention. Those skilled in the art will also appreciate that various features described below could be combined with other embodiments to form multiple variations of the invention. Those skilled in the art will appreciate that some conventional aspects of FIGS. 3-6 have been simplified or omitted for clarity.

FIG. 3 depicts a product warranty registration system 300 in an example of the invention. Product warranty registration system 300 is comprised of a point of sale system 302, a code processing system 304, a financial network 305, a manufacturer warranty activation system 306, and a phone card activation system 308. Code processing system 304 includes a database 310. Code processing system 304 is configured to communicate with point of sale system 302, financial network 305, manufacturer warranty activation system 306, and phone card activation system 308 over the Public Switched Telephone Network (PSTN).

Point of sale system 302 is a system used by a seller to facilitate the selling of a product. Point of sale system 302 includes a bar code reader 312, a magnetic strip reader 314, a printer 316, and a user interface 318. User interface 318 includes a display 322 and a keypad 324. Code processing system 304 is configured to process a phone card code to facilitate registering a warrant on a product. Financial network 305 is configured to process financial card numbers to authorize financial transactions. Examples of financial network 305 include credit card systems, debit card systems, and bank card systems. Manufacturer warranty activation system 306 is configured to activate a warranty on a product with a manufacturer. Phone card activation system 308 is configured to activate a phone card.

FIG. 4 depicts a message sequence diagram for product warranty activation system 300 in an example of the invention. Point of sale system 302 obtains a phone card code from product 330. Product 330 is packaged with a phone card that includes the phone card code. One example of the phone card code is a pre-paid phone card code. Point of sale system 302 obtains the phone card code by reading a bar code using bar code reader 312, by reading a magnetic strip using magnetic strip reader 314, or by having the consumer or a store clerk enter the phone card code using keypad 324. Point of sale system 302 also obtains a financial card number to purchase the product. Point of sale system 302 obtains the financial card number by reading a magnetic strip on a card using magnetic strip reader 314 or by having the consumer or the store

clerk enter the financial card number using keypad 324. Examples of the financial card number include credit card numbers, debit card numbers, or bank card numbers. Point of sale system 302 generates a charge authorization request responsive to obtaining the financial card number.

Point of sale system 302 then prompts the consumer to determine if the consumer wants to register product 330 with the manufacturer and activate the warranty on product 330. Point of sale system 302 prompts the consumer using user interface 318. Those skilled in the art will appreciate that point of sale system 302 could automatically determine that the consumer wants to activate the warranty on product 330 by purchasing product 330. If the consumer wants to activate the warranty on product 330, then point of sale system 302 generates a warranty activation request. Point of sale system 302 also obtains consumer information. In some examples, point of sale system 302 reads a credit card, a debit card, a store discount, or some other card to obtain the consumer information. In some examples, point of sale system 302 prompts a consumer for consumer information using user interface 318.

Point of sale system 302 transfers the financial card number, the charge authorization request, the warranty activation request, the phone card code, and the consumer information to code processing system 304. Point of sale system 302 also transfers seller information to code processing system 304. Those skilled in the art will appreciate that point of sale system 302 is programmed with seller information that includes store identifiers, clerk identifiers, time of day, amount of purchase, and other information.

Code processing system 304 receives the financial card number, the charge authorization request, the warranty activation request, the phone card code, the consumer information, and the seller information. Code processing system 304 transfers the financial card number and the charge authorization request to financial network 305. Financial network 305 processes the financial card number based on the charge authorization request to generate an authorization response. The authorization response indicates whether or not the

charge to the financial card number was allowed. Financial network 305 transfers the authorization response to code processing system 304.

If the charge was authorized, then code processing system 304 processes the phone card code to determine product information and manufacturer information for product 330. To determine the product information and the manufacturer information, code processing system 304 looks up the phone card code in database 310. Each phone card code corresponds to a product and a manufacturer. In this example, code processing system 304 is controlled by the same communication provider that provides the phone service for the phone card packaged with product 330. The communication provider can therefore program each phone card code into database 310. If code processing system 304 finds the phone card code in database 310, then code processing system 304 locates the product information and the manufacturer information for product 330. Some examples of product information include serial numbers, model numbers, product price, and other information on a product. Based on the manufacturer information, code processing system 304 determines who manufactured product 330 and how to communicate with that manufacturer. In this example, the manufacturer information includes information about manufacturer warranty activation system 306.

Those skilled in the art will appreciate that point of sale device 302 could also obtain the product information and transfer the information to code processing system 304. For example, point of sale device 302 could read a bar code from the product to obtain the product information.

Code processing system 304 transmits the warranty activation request, the product information, the consumer information, and the seller information to manufacturer warranty activation system 306 based on the manufacturer information. Those skilled in the art will appreciate that code processing system 304 could also format the product information, the consumer information, and the seller information based on the manufacturer information before transmitting the information to manufacturer warranty activation system 306. Manufacturer warranty activation system 306 processes the product information, the consumer

information, and the seller information in response to receiving the warranty activation request. Manufacturer warranty activation system 306 activates the warranty on product 330 and generates a warranty activation response. Manufacturer warranty activation system 306 transfers the warranty activation response to code processing system 304.

Code processing system 304 generates a phone card activation request responsive to receiving the phone card code. Code processing system 304 transfers the phone card activation request and the phone card code to phone card activation system 308. Phone card activation system 308 processes the phone card code in response to receiving the phone card activation request to activate the phone card. Phone card activation system 308 generates a phone card activation response and transfers the phone card activation response to code processing system 304. Those skilled in the art will appreciate that point of sale system 302 could also generate the phone card activation request and transmit the phone card code and the phone card activation request to phone card activation system 308.

Code processing system 304 transfers the authorization response, the warranty activation response, and the phone card activation response to point of sale system 302. Point of sale system 302 displays the authorization response, the warranty activation response, and the phone card activation response using display 322. In some examples, point of sale system 302 prints a warranty certificate, using printer 316, based on the warranty activation response. In some examples, point of sale system 302 prints a phone card activation certificate, using printer 316, based on the phone card activation response. In some examples, point of sale system 302 prints a receipt, using printer 316, based on the authorization response.

FIG. 5 depicts logic 500 that could be executed by point of sale system 302 in an example of the invention. Point of sale system 302 waits to receive data. The data could be a financial card number, a phone card code, consumer information, a warranty activation request, a warranty activation response, a phone card activation response, an authorization response, or some other data.

Point of sale system 302 determines if the data is local data. Local data is data that is not received from code processing system 304.

If the data is local, then point of sale system 302 determines if the data is a phone card code. If the data is a phone card code, then point of sale system 302 determines if the consumer wants to activate a warrant on the product. If the consumer does not want to activate the warranty, then point of sale system 302 transmits the data to code processing system 304. If the consumer does want to activate the warranty, then point of sale system 302 determines if additional consumer information needs to be obtained. If additional consumer information does not need to be obtained, then point of sale system 302 transmits the data to code processing system 304. If additional consumer information needs to be obtained, then point of sale system 302 obtains the additional consumer information. Point of sale system 302 then transfers the data to code processing system 304.

If the information is not local, then point of sale system 302 determines if the data is a response from code processing system 304. If the data is a response from code processing system 304, then point of sale system 302 determines if the data is an authorization response for the financial card number. If the data is an authorization response, then point of sale system 302 displays the authorization response. If the data is not an authorization response, then point of sale system 302 determines if the data is a warranty activation response. If the data is a warranty activation response, then point of sale system 302 displays the warranty activation response and prints a warranty certificate based on the warranty activation response.

FIG. 6 depicts logic 600 that could be executed by code processing system 304 in an example of the invention. Code processing system 304 waits for a request. If the request is an authorization request for authorization of a financial card number, then code processing system 304 transmits the authorization request to financial network 305. If the request is a warranty activation request, then code processing system 304 determines product information and manufacturer information based on the phone card code by